

College of pharmacy, Sookmyung Women's University and 'College of Agricultural and Life sciences,
Kangwon National University

Cordyceps is reputed for its broad biological activities and as a tonic for replenishing vital function in folk medicines.

Lipid peroxidation and oxygen free radical injure are major causes of the developement of atherosclerosis, cancer, liver disease, and the aging process.

This study was carried out to investigate the antilipidperoxidative activity of *Cordyceps staphylinidaecola*.

It was extracted with water. We determined CCl₄-treated liver injured rats and measured liver homogenate MDA by TBARS assay and serum parameters.
As a result, the activity increased by dose dependance.

[PD2-42] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Anti-Lipid Peroxidative Principles of the Stem Bark of *Kalopanax pictus* Nakai

Choi JW¹, Han YN², Lee KT³, Kwak TS⁴, Kwon SH⁵ and Park HJ⁰⁵

¹College of Pharmacy, Kyung Sung University, ²Natural Products Research Institute, Seoul National University, ³Division of Applied Plant Sciences

Hepatic lipid peroxide contents were examined in bromobenzene-treated rats after the oral administration of MeOH extract of the stem bark *Kalopanax pictus*, its n-BuOH fraction, EtOAc fraction and an alkali hydrolysate of the n-BuOH fraction and after intraperitoneal administration of hederagenin monodesmosides and bisdesmosides. The hederagenin monodesmosides, kalopanaxsaponin A and sapindoside C, exhibited significant anti-lipid peroxidation effects after intraperitoneal administration with 10-30 mmole/kg, whereas their bisdesmosides exhibited no significant activity. These two saponins were suggested to be contributable to the anti-lipid peroxidation of *K. pictus*.

[PD2-43] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Anticarcinogenic Effect of the Heartwood of *Rhus verniciflua* and Its Active Principles

Park HJ⁰¹, Kwon SH¹, Kim GT¹, Lee KT², Jung GO³, Park KY³, Choi JW⁴

¹Division of Applied Plant Sciences, Sangji University, ²College of Pharmacy, Kyung-Hee University, ³Department of Food & Nutrition, Pusan National University, ⁴College of Pharmacy, Kyung Sung University

Many xenobiotic substances are activated via hepatic microsomal enzymes and induce disturbances of DNA strands as well as lipid peroxidation. In our concerning to the elucidation of anticarcinogenic principles from the heartwood of *Rhus verniciflua*, the anti-lipid peroxidation of the MeOH extract of *R. verniciflua* heartwood in vivo and antimutagenicity of the MeOH extract and its fractions in vitro were observed. In bromobenzene-treated rats, the MeOH extract inhibited microsomal cytochrome P450 enzymes and activated glutathione S-transferase, and finally it significantly reduced malondialdehyde contents. In Ames test, the addition of 1.0 mg/plate of MeOH extract and EtOAc fraction to *Salmonella typhimurium* TA100 inhibited the mutagenicity by aflatoxin B1 to a level of the spontaneous group. Column chromatographic isolation of EtOAc fraction yielded five flavonoids. By Ames test of these components, sulfuretin was found to scavenge electrophilic intermediate capable of mutation, whereas fustin was shown to be a direct antimutagen which is not involving in the inhibition of hepatic microsomal enzymes. These results suggest that the extract of *R. verniciflua* heartwood is a potent anticarcinogen and that its components of sulfuretin and fustin are active

principles.

[PD2-44] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Antilipoperoxidant Activity of Astragali Radix on CCl₄-induced Hepatotoxicity

Kim EJ^o, Kim YS and Yang KS

College of pharmacy, Sookmyung Women's University

The roots of *Astragalus membranaceus* Bunge (Leguminosae) have been used as an antiperspirant, diuretic, or tonics in the folk remedies.

Oxygen free radical injury and lipid peroxidation have been suggested as major causes of atherosclerosis cancer, liver disease, and the aging process.

In this study, we determined effect of CH₂Cl₂, EtoAc, and BuOH fractions of Astragali Radix on CCl₄-induced liver injured rats and measured liver homogenate MDA by TBARS assay and serum parameters.

The results showed that CH₂Cl₂, EtoAc fractions have antioxidative activity on lipidperoxidation.

[PD2-45] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

The effects on renal functions of Phellinus linteus

Jung EJ^o, Kim JH, Yang KS, Sung JM

College of Pharmacy, Sookmyung Women's University and College of Agricultural and Life Sciences, Kangwon National University

Phellinus linteus(Polyporaceae) has been used as anti-tumor and immuno-stimulating agents in folk medicines.

In order to evaluate the effects on renal function of natural and cultivated P. linteus, we measured serum chemical parameter(BUN, creatinine, uric acid), urinary electrolyte(Na⁺, K⁺, Cl⁻) and urine volume in HgCl₂-intoxicated rats.

The results showed that MeOH Ex. of natural and cultivated P.linteus had significant diuretic effects and inhibited increase of BUN, creatinine, uric acid in renal failure rats.

[PD2-46] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Effects of the Leaves of Zanthoxylum piperitum on the Formation of Lipid Peroxide In Vivo and Their Phenolic Compounds

Park JC^o, Hur JM*, Lee JH*, Sung NJ*, Baek NI**, Kim MS***, Park JG, Kim HJ, Choi JW****

Dept. Oriental Medicine Resources, Suncheon National Univ., *Dept. Food & Nutrition, Kyeongsang National Univ., **Dept. Agronomy, Kyunghee Univ., ***Dong-A Pharm. Co., ****Dept. Pharmacy, Kyungsung Univ.

The effects on the hepatic lipid peroxide in bromobenzene-induced rats and phytochemical study on the leaves of Zanthoxylum piperitum A.P. DC. (Rutaceae) were investigated. The level of lipid peroxide elevated by bromobenzene was significantly reduced by the methanol extract of Z. piperitum. The air-dried leaves of Z. piperitum were extracted with boiling methanol. The extract was then fractionated into dichloromethane, ethyl acetate, n-butanol and water fractions. Silica gel and